



STATE OF TENNESSEE

Justin P. Wilson

COMPTROLLER OF THE TREASURY

Jason E. Mumpower

Comptroller

STATE CAPITOL

Chief of Staff

NASHVILLE, TENNESSEE 37243-9034

PHONE (615) 741-2501

## Memorandum

**To:** Honorable Bill Haslam, Governor  
Honorable Justin P. Wilson, Comptroller of the Treasury  
Honorable Tre Hargett, Secretary of State  
Honorable David H. Lillard, Jr., Treasurer  
Honorable Larry Martin, Commissioner of Finance and Administration

**From:** William Wood, Budget Analyst, Comptroller of the Treasury

**Date:** March 21, 2017

**Re:** Economic Report to the Governor

---

This memo considers the reasonableness of the economic projections published in the annual *Economic Report to the Governor* from the Boyd Center for Business and Economic Research (CBER) at the University of Tennessee. In addition, the memo examines Tennessee's labor market and unemployment rates, and considers possible economic outcomes of proposed federal policies.

In short, staff analysis finds:

- **CBER's projections for Tennessee nominal personal income do not appear to be unreasonable.** The report predicts that Tennessee nominal personal income will grow by 4.51 percent in 2017, 5.09 percent in 2018, and 4.80 percent in both fiscal years 2017 and 2018. Few agencies track Tennessee personal income – historically, however, Tennessee personal income growth has closely mirrored U.S. GDP growth. CBER's projections for U.S. GDP fall within the range of other figures quoted by various other forecasting sources, leading staff to conclude that CBER's estimate for Tennessee personal income is similarly reasonable.
- **Tennessee's unemployment rate has fallen to its lowest level since the recession, but the number of people reportedly unable to find full-time work is still high.** In December 2016, Tennessee unemployment was 4.8 percent, among the lowest it has been since 2007. Although the overall unemployment rate has decreased, it may be artificially low in part because there are simply fewer people participating in the labor force: Tennessee's labor force participation rate in 2016 was 60.2, lower than the 64.6 percent rate of 2006. Furthermore, the number of involuntary part-time workers –

## Statutory Authority

Tennessee Code Annotated (TCA) § 9-4-5202 requires the State Funding Board (the Board) to secure estimates of Tennessee's economic growth from the Tennessee econometric model at least once a year. These estimates are published annually in the *Economic Report to the Governor* by the University of Tennessee's Boyd Center for Business and Economic Research (CBER). The report includes data for Tennessee and the United States as a whole, using indicators such as nominal personal income, employment, inflation, consumer spending, and the housing market.

The statute also requires the Board to comment on the "reasonableness" of CBER's projections, and provide different estimates, if necessary. As specified in TCA § 9-4-5201, the rate of Tennessee's economic growth is based on the projected changes of the state's personal income.

The Comptroller's staff assists the Board by evaluating information on current economic conditions and trends provided by commonly referenced sources in economic forecasting.

those employed part-time who report they would like a full-time job – remains above pre-recession levels.

▪ **It is uncertain how emerging federal policy will affect the economy: lower taxes and reduced regulations may spur growth, while higher tariffs and a potential trade war could slow the economy.** In addition, the Trump administration has put forth plans to increase spending on defense and infrastructure. Without corresponding reductions in other federal expenditures, reduced revenues from tax cuts and increased spending may further increase the deficit and federal debt.

## CBER's projections fall within the range of other forecasts

CBER's economic report predicts that Tennessee nominal personal income will grow by 4.51 and 5.09 percent in calendar years 2017 and 2018, respectively. On a fiscal year timeline, personal income is expected to increase by 4.8 percent in both fiscal years 2017 and 2018 (Exhibit 1).<sup>1</sup>

### Exhibit 1: CBER's Estimated Tennessee Personal Income Growth

Forecast Year	Calendar Year	Fiscal Year
2016	3.61%	—
2017	4.51%	4.80%
2018	5.09%	4.80%

Source: Matthew N. Murray et al., *An Economic Report to the Governor of the State of Tennessee: The State's Economic Outlook January 2017*, Boyd Center for Business and Economic Research, University of Tennessee, January 2017, <http://cber.haslam.utk.edu>.

<sup>1</sup> Matthew N. Murray et al., *An Economic Report to the Governor of the State of Tennessee: The State's Economic Outlook January 2017*, Boyd Center for Business and Economic Research, University of Tennessee, January 2017, pp. 43, 35 (Appendix A), <http://cber.haslam.utk.edu>.

# AT A GLANCE

## Tennessee's Economic Outlook

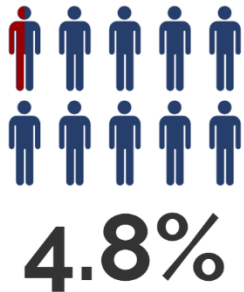
# 2017

*projections from the  
Boyd Center for  
Business and  
Economic Research*



nominal personal  
income

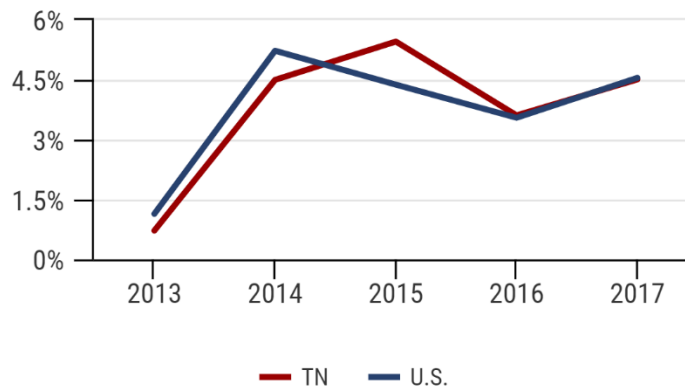
U.S.: ▲ 4.6%



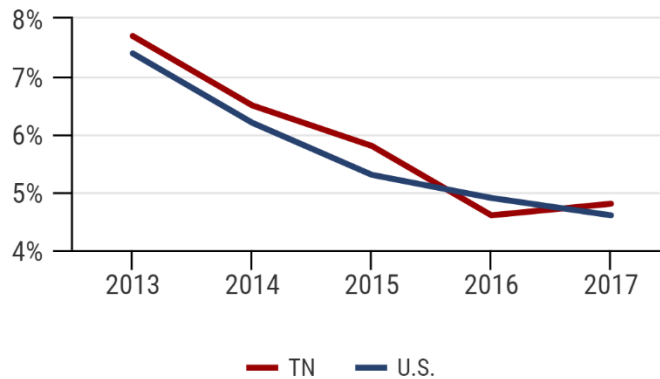
unemployment rate

U.S.: 4.6%

### Historical Growth Rates



### Historical Unemployment Rates



### Quick Facts

Of the Southeastern states, **Tennessee has the highest rate of job growth following the recession**, with 6.6 percent overall employment growth from 2007 to 2016.

In 2016, **Tennessee taxable sales are expected to grow faster than personal income** (5.1 percent vs 3.6 percent). This is projected to reverse in 2017, with personal income growing 4.5 percent and taxable sales slowing to 3.8 percent growth.



real GDP

U.S.: ▲ 2.3%



Consumer Price  
Index



**42,100**

new nonfarm jobs  
created

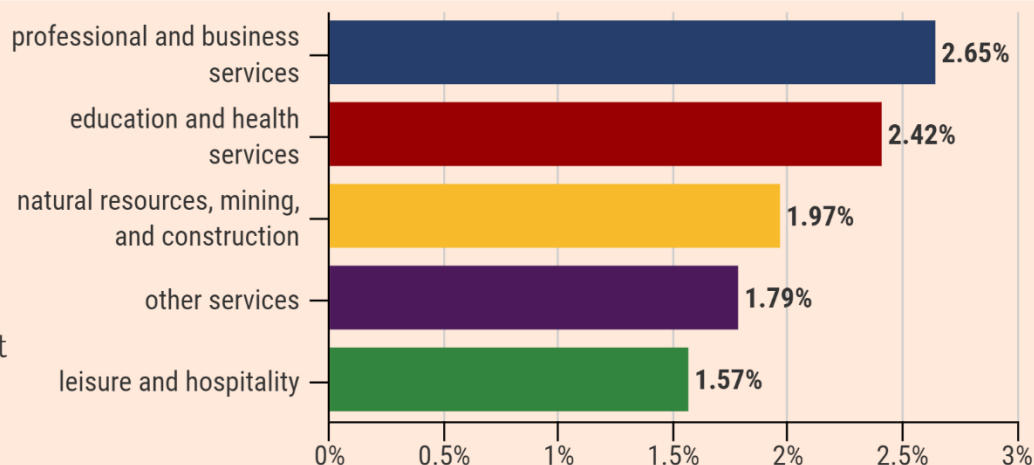


**\$49,440**

average nonfarm  
annual salary

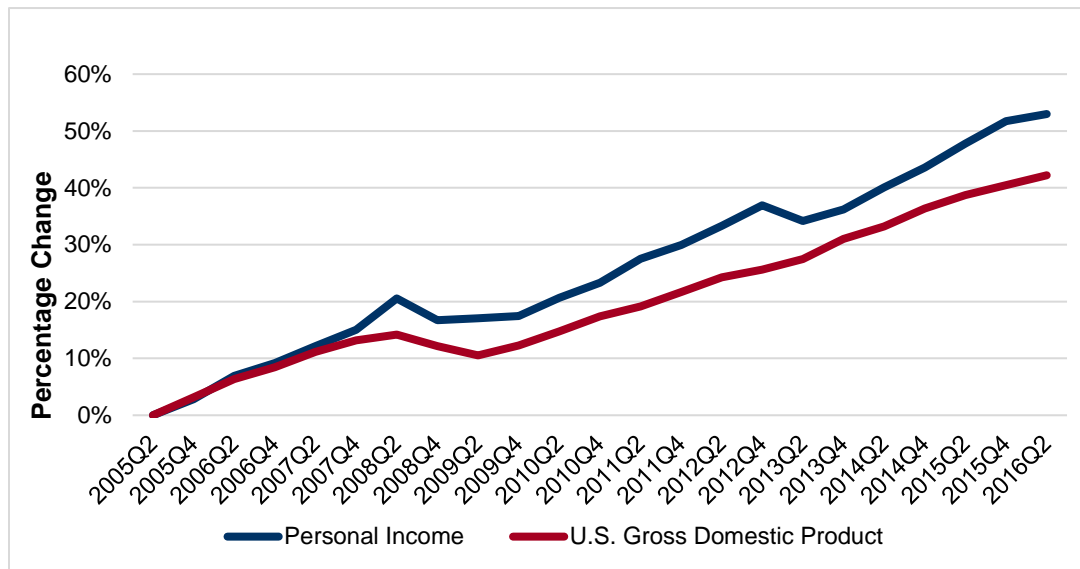
## Tennessee's Fastest Growing Industries

In 2017, nonfarm employment is expected to grow for the seventh consecutive year. All sectors except civilian federal government are projected to expand.



Few agencies estimate growth in Tennessee personal income, making it difficult to directly compare CBER's projections with other sources. Tennessee income closely tracks growth in state GDP, however, and while few agencies track state GDP growth, the state figure typically mirrors the national numbers. Consequently, U.S. GDP may be used as a proxy for Tennessee GDP, which, in turn, may stand in for Tennessee personal income – in fact, the two figures often track closely (Exhibit 2). Thus, in the end, staff may compare the many estimates of U.S. GDP to CBER's projections, and use the result to judge the reasonableness of CBER's personal income predictions.

**Exhibit 2: Relative Growth of Tennessee Personal Income and U.S. GDP**



Source: U.S. Bureau of Economic Analysis, Tennessee Personal Income by Major Component, Gross Domestic Product, January 27, 2017, [www.bea.gov](http://www.bea.gov).

CBER projects that U.S. GDP will grow 2.3 percent in calendar year 2017. This figure falls within a range of government and non-government forecasts: Freddie Mac predicts 1.9 percent growth over this period, while Moody's Investors Services forecasts a 2.4 percent increase. For calendar year 2018, CBER's projection of 2.6 percent GDP growth falls between the low of 1.9 percent from both the Congressional Budget Office and Fannie Mae and the high of 3.5 percent from Deutsche Bank (Exhibit 3).

Because CBER's estimates for U.S. GDP fall within the range of predictions from reputable sources, staff finds that CBER's projections for Tennessee personal income are not unreasonable.

---

**Exhibit 3: Government and Non-Government GDP Forecasts**

---

Forecaster	CY 2017	CY 2018	Date
Congressional Budget Office	2.3	1.9	January 2017
Fannie Mae	2.0	1.9	February 2017
Freddie Mac	1.9	2.1	December 2016
Raymond James	2.2	2.0	February 2017
Deutsche Bank	2.3	3.5	December 2016
Federal Reserve Bank	2.1	2.0	December 2016
Royal Bank of Canada	2.3	2.3	February 2017
Moody's	2.4	2.5	February 2017
High	2.4	3.5	
Median	2.3	2.1	
Low	1.9	1.9	
<b>CBER</b>	<b>2.3</b>	<b>2.6</b>	<b>January 2017</b>

Source: Congressional Budget Office, *The Budget and Economic Outlook: 2017 to 2027, January 2017*, p. 40, <https://www.cbo.gov>; Fannie Mae, "Economic Forecast: February 2017," February 10, 2017, p. 1, <http://www.fanniemae.com>; Freddie Mac, "December 2016 Economic & Housing Market Forecast," December 2016, p. 5, <http://www.freddiemac.com>; Scott D. Brown, "Economic Trends," Raymond James & Associates, February 10, 2017, p. 2, <https://www.raymondjames.com>; Barbara Böttche et al., *Outlook 2017: Solid, despite diminished tailwinds*, Deutsche Bank, December 21, 2016, p. 13, <https://www.dbresearch.com>; Federal Reserve Bank, "Economic projections of Federal Reserve Board members and Federal Reserve Bank presidents under their individual assessments of projected appropriate monetary policy," December 14, 2016, p. 1, <https://www.federalreserve.gov>; Royal Bank of Canada, "Economic Forecast Detail – United States," February 2017, p. 1, <http://www.rbc.com>; Moody's Investors Service, "Moody's: Global economy to maintain momentum, but shifting US policies inject uncertainty," February 23, 2017, p. 1, <https://www.moodys.com>; Matthew N. Murray et al., *An Economic Report to the Governor of the State of Tennessee: The State's Economic Outlook January 2017*, Boyd Center for Business and Economic Research, University of Tennessee, January 2017, p. 35 (Appendix A), <http://cber.haslam.utk.edu>.

---

## Unemployment rates have reached pre-recession levels, but involuntary part-time is still high

In 2016, Tennessee's labor market grew faster than the United States as a whole: Tennessee's non-farm employment increased by 2.4 percent, reflecting 69,500 new jobs, compared to 1.7 percent growth nationally. The type of growth differed as well – Tennessee's manufacturing sector grew 2.7 percent, while overall, manufacturing jobs contracted nationwide. As the labor market continues to creep toward full employment, CBER expects growth to slow in the future, both within the state and nationally. CBER puts rates of nonfarm job growth at 1.42 percent in 2017 and 1.19 percent in 2018, comparable to 1.30 percent and 1.21 percent growth in the U.S. overall.

The state's unemployment rate has continued to fall: in December 2016, the state rate was 4.8 percent, just over the national rate of 4.7 percent. In 2017, CBER expects the state

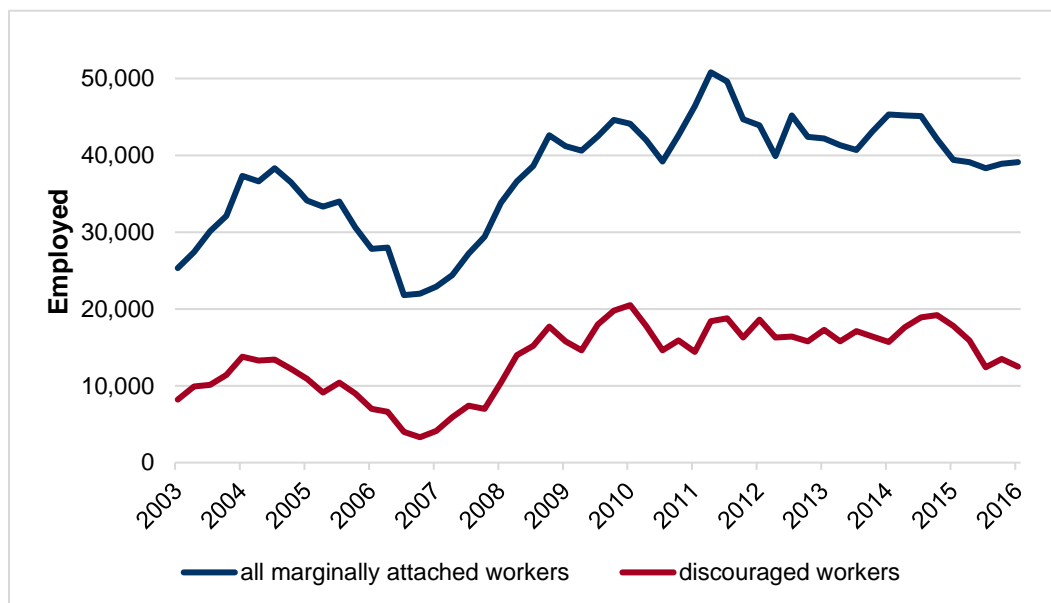
unemployment rate to remain at 4.8 percent.<sup>2</sup> While this low rate is promising, other employment measures should also be considered for a more complete picture of the workforce.

As touched on by CBER, the official measure of unemployment includes only people who are currently looking for a job – it does not include **discouraged workers**, or people who have recently stopped looking for work because they do not believe a job is available. The rate also does not include **other marginally attached workers**, or people who can and want to work, but have not recently searched for a job for other reasons, such as recovering from an injury or providing care for a sick family member. As a result, the official employment rate may not provide the complete story of the workforce, as it excludes people who are willing and able to work, but, for whatever reason, do not.

Currently, the levels of marginally attached workers, including discouraged workers, are just now approaching the levels before the recession, and remain above the lows of 2006 and 2007 (Exhibit 4). In other words, although the overall unemployment rate has decreased, it may be artificially low in part because there are simply fewer people participating in the labor force: Tennessee's labor force participation rate in 2016 was 60.2 percent, lower than the 64.6 percent rate of 2006 (Exhibit 5).

---

**Exhibit 4: Tennessee Marginally Attached Workers and Discouraged Workers (not seasonally adjusted)**

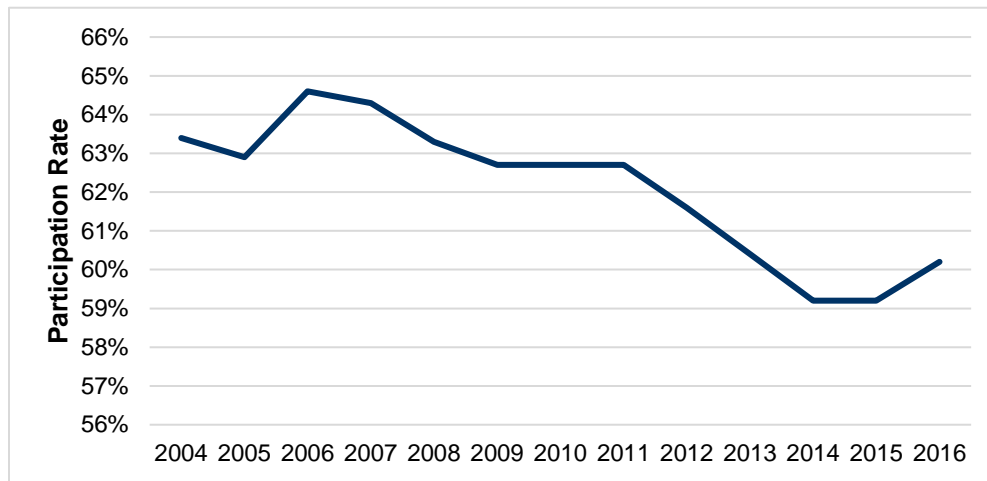


Source: U.S. Bureau of Labor Statistics, [All Marginally Attached Workers for Tennessee](https://fred.stlouisfed.org), retrieved from FRED, Federal Reserve Bank of St. Louis, March 7, 2017, <https://fred.stlouisfed.org>; U.S. Bureau of Labor Statistics, [Not in Labor Force: Discouraged Workers for Tennessee](https://fred.stlouisfed.org), retrieved from FRED, Federal Reserve Bank of St. Louis, March 6, 2017, <https://fred.stlouisfed.org>.

---

<sup>2</sup> Matthew N. Murray et al., *An Economic Report to the Governor of the State of Tennessee: The State's Economic Outlook January 2017*, Boyd Center for Business and Economic Research, University of Tennessee, January 2017, pp. 20, 35 (Appendix A), <http://cber.haslam.utk.edu>.

---

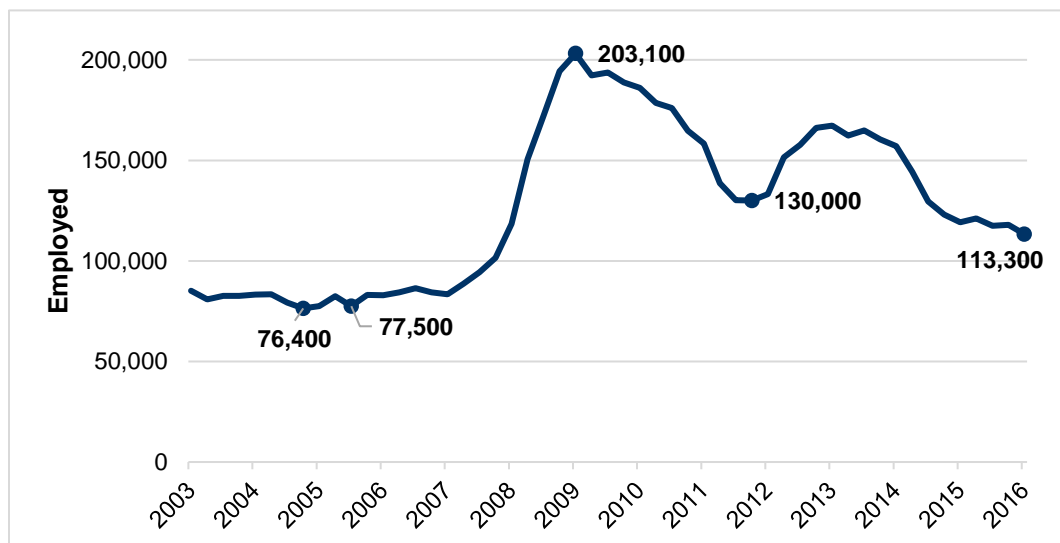
**Exhibit 5: Tennessee Labor Force Participation Rate**

Source: Matthew N. Murray et al., *An Economic Report to the Governor of the State of Tennessee: The State's Economic Outlook January 2017*, Boyd Center for Business and Economic Research, University of Tennessee, January 2017, pp. 35 (Appendix A), 77 (Appendix B), <http://cber.haslam.utk.edu>.

---

**Underemployment** is another employment-related measure to consider. For purposes of unemployment statistics, “underemployment” refers to workers who work part time for economic reasons, or involuntary part-time workers; that is, people who would like a full-time position, but report they cannot find one. While the number of these part-time workers has declined steadily since 2009, the 113,300 such workers recorded in the fourth quarter of 2016 is still above pre-recession levels. Thus, as the economy has recovered, more people certainly *have* jobs, but the mix of part-time/full-time employment appears to have shifted as elevated numbers of people are reportedly unable to find full-time work.

---

**Exhibit 6: Tennessee Employed Part-time for Economic Reasons (not seasonally adjusted)**

Source: U.S. Bureau of Labor Statistics, *Employed Involuntary Part-Time for Tennessee*, retrieved from FRED, Federal Reserve Bank of St. Louis, March 7, 2017, <https://fred.stlouisfed.org>.

---



## It is uncertain how emerging federal policy will affect the economy: lower taxes and reduced regulations may spur growth, while higher tariffs and a potential trade war could slow the economy

Following the election, several economic indicators report that business and consumer confidence is on the rise. The U.S. has recorded multiple record highs in the stock market; the Dow Jones Industrial Average increased by approximately 14 percent from the 2016 presidential election to the end of February, and recently hit 20,000 for the first time in history.<sup>3, 4</sup> February's consumer confidence report recorded the best reading since 2001, surpassing the 15-year high set in December 2016, immediately following Trump's electoral victory.<sup>5</sup>

Minutes of the Federal Reserve Bank from February 1, 2017, describe a similar sentiment:

Moreover, a number of national surveys of sentiment among corporate executives and small business owners as well as information from participants' District contacts indicated a high level of optimism about the economic outlook. Many participants indicated that their business contacts attributed the improvement in business sentiment to the expectation that firms would benefit from possible changes in federal spending, tax, and regulatory policies. A few participants indicated that some of their contacts had already increased their planned capital expenditures.<sup>6</sup>

The Trump administration's agenda includes proposals to cut taxes, reduce regulations, and raise tariffs:

- **President Trump's tax plan calls for decreasing the number of personal income tax brackets, increasing the standard deduction, and eliminating the estate tax on the personal tax side; on the business side, the new administration proposes reducing the corporate tax rate from 35 percent to 15 percent and cutting business tax credits.** Generally, economists expect that lower taxes will prompt stronger short-term growth. It is also possible that these short-term effects will translate into sustained economic growth when coupled with the reduced regulations detailed below: businesses may invest more in capital, and such investments in better tools and machinery may increase productivity and wages. Additional income, along with high consumer and business confidence, may spur further spending and growth.<sup>7</sup> According to the Tax Foundation's Taxes and Growth Model, Trump's tax plan would increase the long-run size of the economy between 6.9 and 8.2 percent, depending on how far business taxes are ultimately lowered.<sup>8</sup>

---

<sup>3</sup> *Wall Street Journal*, [Dow Jones Industrial Average](http://quotes.wsj.com), November 8, 2016 to February 28, 2017, <http://quotes.wsj.com>.

<sup>4</sup> Fred Imbert, "Dow closes above 20,000 for first time as Trump orders send stocks flying," *CNBC*, January 25, 2017, <http://www.cnbc.com>.

<sup>5</sup> Jonathan Garber, "Consumer confidence soars to a 15-year high," *Business Insider*, February 28, 2017, <http://www.businessinsider.com>.

<sup>6</sup> Federal Open Market Committee, *Minutes from meetings January 31, 2017 and February 1, 2017*, p. 14, <https://www.federalreserve.gov>.

<sup>7</sup> Matthew N. Murray et al., *An Economic Report to the Governor of the State of Tennessee: The State's Economic Outlook January 2017*, Boyd Center for Business and Economic Research, University of Tennessee, January 2017, pp. 2, 16, <http://cber.haslam.utk.edu>.

<sup>8</sup> Alan Cole, "Details and Analysis of Donald Trump's Tax Plan, September 2016," September 19, 2016, <https://taxfoundation.org>.



- **President Trump has indicated a desire to reduce regulations to further stimulate economic growth.** Regulations can become duplicative, contradictory, or overly complex over time, and excessive regulation may complicate or negatively impact businesses' plans for expansion and research and development; ultimately, the cost of compliance may hamper innovation and productivity. One study from George Mason University projected that, had regulation remained at the levels seen in 1980, the U.S. economy would be an additional \$4 trillion larger, translating to an additional \$13,000 of income per capita.<sup>9</sup>
- **President Trump's potential trade agenda, such as higher tariffs or renegotiating NAFTA, could slow the economy's growth.** Trade is one component of GDP, along with personal consumption expenditures, investment, and government purchases. While the U.S. typically imports more goods than it exports – in 2016, the trade deficit was recorded at \$493.8 billion, or about 2.7 percent of GDP – a deficit is still a drag on economic growth.<sup>10</sup> Placing higher tariffs on other countries' exports, such as products from Mexico and China, in an attempt to make American goods comparatively cheaper and more attractive to consumers may lead other countries to retaliate. One possible target for Chinese reprisals are American soybeans and aircraft, which together make up a quarter of U.S. exports to China. In response to high tariffs, China could divert purchases to Airbus, a European manufacturer, further increasing the U.S. trade deficit.<sup>11</sup>
- **Federal debt, which is at an all-time high, may increase if tax cuts outpace spending cuts.** America's debt is the largest in the world for a single country: in 2016, federal debt increased to \$20 trillion, making it the fifth year in a row debt exceeded U.S. GDP. Contributing to this debt was the federal deficit, which reached \$587.3 billion in 2016. Although the economy may benefit from deficit spending in the short run – for example, the Federal Reserve may purchase government securities to finance the deficit, increasing the money supply – long-term debt ultimately slows growth. The Trump administration has put forth plans to cut taxes and also increase spending on defense and infrastructure. Without corresponding reductions in other federal expenditures, reduced revenues from tax cuts and increased spending may further increase the deficit and federal debt: CBER projects federal debt may reach \$23.7 trillion in 2020.<sup>12</sup>

---

<sup>9</sup> Bentley Coffey et al., *The Cumulative Cost of Regulations*, Mercatus Center, George Mason University, April 2016, p. 8, <https://www.mercatus.org>.

<sup>10</sup> Matthew N. Murray et al., *An Economic Report to the Governor of the State of Tennessee: The State's Economic Outlook January 2017*, Boyd Center for Business and Economic Research, University of Tennessee, January 2017, p. 7, <http://cber.haslam.utk.edu>.

<sup>11</sup> *The Economist*, "Rules of engagement: America, China and the risk of a trade war," January 8, 2017, <http://www.economist.com>.

<sup>12</sup> Matthew N. Murray et al., *An Economic Report to the Governor of the State of Tennessee: The State's Economic Outlook January 2017*, Boyd Center for Business and Economic Research, University of Tennessee, January 2017, pp. 14-15, <http://cber.haslam.utk.edu>.